



Log. 87-11
Amphenol
Products

Allied Amphenol
Syntex Tech
World Headquarters
4300 Commerce Court
Lisle, IL 60532
Telephone (312) 983-3500

January 5, 1987

RECEIVED

JAN - 8 1987

Ms. Mary Dinkel
State of Illinois
Environmental Protection Agency
Hazardous Substance Control Section
Division of Land Pollution Control
2200 Churchill Road
Springfield, IL 62706



EPA-DLPC

Dear Ms Dinkel:

Attached you will find the results of the fourth quarterly monitoring of groundwater samples for the former Amphenol Products facility located in Broadview, Illinois. These samples were obtained in September, 1986 by our consultant IT Corporation. Additionally, an error was found in the Table 3 transmitted to you on August 18, 1986. In the results for Sample MW-16S, the analytical values for trans-1,2-dichloroethylene and trans-1,3-dichloropropene were transposed. The value of 1800 micrograms per liter should have been assigned to trans-1,2-dichloroethylene; trans-1,3-dichloropropene remained undetected in this sample.

Data for the fourth quarter's results of analyses are presented in the attached Tables 1 through 4 and the accompanying graphs. Site groundwater elevation measurements are presented in Table 5 and a groundwater contour map based on the fourth quarter's measured elevations is presented in Figure 1. As shown in Table 5, groundwater elevations are approximately one foot lower than that measured during the third quarter and generally represent the lowest groundwater elevations observed during the course of our investigation.

Metals concentrations in site groundwater samples remain quite low, as shown in Table 1. Overall metals concentrations decreased in Monitoring Wells MW-2 and MW-16S, while Monitoring Wells MW-12, 13, and 15 revealed slight increases. Monitoring Well MW-16D had mixed results, with copper and nickel values decreasing, while cadmium and chromium increased slightly and silver was detected for the first time. Copper, chromium, and nickel remain the most commonly detected metals in site wells, including the site upgradient well, MW-13. Metal concentrations in the upgradient well are comparable to those detected in most other site wells. Monitoring Well MW-15 contains slightly higher concentrations of copper and nickel than the upgradient well and Monitoring Well MW-16S contains slightly higher concentrations of chromium and copper than the upgradient well.

Ms. Mary Dinkel
State of Illinois
January 5, 1987
Page 2

As has been historically the case, cyanide again was undetected in site groundwater samples. Oil and grease was detected in all samples, with the highest concentration (1.8 mg/l) found in the upgradient well, MW-13.

No volatile organics were detected in Monitoring Wells MW-2, MW-13, MW-15, and MW-16D. Monitoring Well MW-12 was found to contain 6.4 parts per billion (ppb) of trans-1,2-dichloroethylene. As has been consistently found during the study, Monitoring Well MW-16S again contains the highest concentration of volatile organics (over 4,200 ppb total volatile organics). However, this well is not believed to be downgradient of the Amphenol property, according to groundwater contours observed to date. The two main compounds detected in MW-16S remain vinyl chloride and trans-1,2-dichloroethylene.

This completes the four quarters of groundwater monitoring at the Amphenol Products facility in Broadview, Illinois. The attached additional Tables 1 through 6 summarize for each well the results of analysis for each of the four sampling events. Samples could not be obtained from Monitoring Well MW-15 during the second quarter due to an obstruction at the well cap which was later remedied.

As shown in the enclosed tables and as has been reported to you on a quarterly basis, volatile organic compounds were detected in only trace amounts in one of the site wells (MW-12) in the first and fourth quarters and in MW-13, the upgradient well, in the third quarter. An exception was Monitoring Well MW-16S, which consistently exhibited elevated concentrations of volatile organics, primarily vinyl chloride and trans-1,2-dichloroethylene. Site groundwater contours measured to date indicate, however, that this well is not influenced by groundwater flow from the Amphenol site. The site groundwater contour map prepared as part of the Phase II Site Assessment report indicated that a groundwater intercept is provided by a drainage ditch which lies between the Amphenol site and the location of Monitoring Well MW-16S. The effect of the ditch is not as apparent on the quarterly groundwater contour maps due to the lesser number of wells utilized in preparing these maps.

Oil and grease were commonly detected in site groundwater samples, although concentrations greatly declined in the third and fourth quarters. Concentrations of oil and grease generally were within the range of 1 to 10 milligrams per liter (mg/l), with some of the higher values found in the upgradient well, MW-13. No readily identifiable upgradient sources were noted near the site.

Ms. Mary Dinkel
State of Illinois
January 5, 1987
Page 3

Monitoring Well MW-16S had the highest oil and grease concentration observed during the study (210 mg/l found during the second quarter). This well is located near a parking area behind the Hobart, Inc. facility, which may explain this elevated oil and grease concentration.

While metals concentrations in groundwater samples decreased significantly after the first quarter, several of the analytical program metals remained at concentrations at or just above the U.S. Environmental Protection Agency (U.S. EPA) National Interim Primary Drinking Water Standards. No drinking water standards exist for gold, nickel, or rhodium. Chromium, copper, and nickel were the most commonly detected metals, while cadmium was detected in low concentrations. Rhodium and cyanide were never detected and gold and silver were detected in trace amounts in a few samples.

Metals were detected during at least one sampling event in each of the site monitoring wells. All observed concentrations have decreased over the past year to the point where concentrations are relatively low and very little difference can be found in fourth quarter total metals concentrations among the wells. For example, the highest concentration of all metals detected was the first quarter result of 1.2 mg/l nickel in Monitoring Well MW-2. The fourth quarter results shows this to have decreased by over an order of magnitude, to 0.10 mg/l. A comparison of the fourth quarter metals data with concentrations observed in the upgradient well (MW-13) would indicate that the concentration of metals in all wells are approaching background levels.

Graphs were prepared which present the concentrations of cadmium, chromium, copper, and nickel found in each well at each quarter. These are presented in Figures 1 through 4. Only these four metals are presented graphically since they were most frequently detected. As was mentioned previously, the graphs again show an overall decrease in variation and concentrations by the end of the fourth quarter.

Statistical methods were also utilized to analyze the data from the four quarters for significant trends and relationships. A Chi-square test for trend was utilized to determine if the proportion of observations exceeding the appropriate drinking water standard was decreasing. A statistically significant trend was not found, although this negative finding may be the result of the small sample population which was available for testing.

Ms. Mary Dinkel
State of Illinois
January 5, 1987
Page 4

In summary, the following conclusions can be made regarding the findings of quarterly groundwater monitoring at the facility:

- Virtually no volatile organic compounds were detected in site groundwater samples, although significant volatile organic concentrations were consistently found in an off-site well (MW-16S) which is not considered to be influenced by groundwater flow originating from the Amphenol site.
- Oil and grease were commonly detected, particularly in the upgradient well (MW-13), although no upgradient source was readily apparent and concentrations have greatly declined over the last two quarters.
- Cyanide and rhodium were never detected in site groundwater samples, while gold and silver were found sporadically in trace amounts.
- Cadmium, copper, chromium, and nickel were the most commonly detected parameters, with nickel generally being found in the highest concentration.
- Cadmium, copper, chromium, and nickel decreased in variability and concentration over the course of the monitoring program.
- Generally, those metals which were detected were found to decrease to concentrations which were not significantly different from background levels at Monitoring Well MW-13.

In light of the continuing decline of observed metals in site groundwater samples and the fact that all parameters are at or below background levels, there appears to be no need for further monitoring at this site. Although cadmium, chromium, and nickel are still slightly exceeding recommended water standards in most site wells, the aquifer is not utilized for drinking water purposes and thus should not pose a risk to surrounding populations.

We look forward to your concurrence with the conclusions discussed previously and with our recommendation that no further action is warranted at this time.

Sincerely yours,



B. N. Fleischer
Director, Environmental Affairs

Atch.

DRAFT - 5 - recycled paper

ecology and environment

TABLE I
WATER QUALITY ANALYSIS SUMMARY
FOR ALLIED CORPORATION/BROADVIEW
PROJECT NO. 303030

PARAMETER	UNITS ⁽¹⁾	SAMPLE IDENTIFICATION					
		MW-2	MW-12	MW-13	MW-15	MW-16D	MW-16S
<u>General Chemistry:</u>							
Cyanide, Total	mg/l	<0.02	<0.02/<0.02 ⁽²⁾	<0.02	<0.02	<0.02	<0.02
Oil and Grease	mg/l	0.8	0.9	1.8	1.4	1.5	1.5
<u>Metals:</u>							
Cadmium	mg/l	0.02	0.02/0.02	<0.01	0.02	0.02	0.02
Chromium	mg/l	0.05	0.06/0.07	0.08	0.08	0.08	0.10
Copper	mg/l	0.10	0.13/0.13	0.12	0.18	0.12	0.15
Gold	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01/<0.01
Nickel	mg/l	0.10	0.12/0.11	0.07	0.12	0.07	0.10
Rhodium	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01/<0.01
Silver	mg/l	0.01	0.01/0.01	0.01	0.01	0.01	0.01

(1) mg/l = milligrams per liter or parts per million.

(2) The indicated parameters were analyzed in duplicate.

TABLE 2
PERCENT RECOVERY SUMMARY
FOR ALLIED CORPORATION/BROADVIEW
PROJECT NO. 303030

PARAMETER	MATRIX SPIKE PERCENT RECOVERY	ANALYTICAL SPIKE PERCENT RECOVERY
Cadmium	100%	93%
Chromium	120%	108%
Copper	100%	96%
Cyanide	82%	—(1)
Gold	—	40%
Nickel	118%	102%
Rhodium	—	136%
Silver	100%	99%

(1) Percent recovery was not determined for the indicated parameter.

TABLE 3
WATER ANALYSIS SUMMARY
OF VOLATILE HAZARDOUS SUBSTANCE LIST COMPOUNDS
FOR ALLIED CORPORATION/BROADVIEW
PROJECT NO. 303030

TABLE 3
(Continued)

PARAMETER	CAS NUMBER ⁽¹⁾	MW-2	MW-12	SAMPLE IDENTIFICATION			
				MW-13	MW-15	MW-16D	MW-16S
2-Hexanone	591-78-6	<10	<10	<10	<10	<10	<10
Methyl bromide	74-83-9	<10	<10	<10	<10	<10	<10
Methyl chloride	74-87-3	<10	<10	<10	<10	<10	<10
4-Methyl-2-pentanone	108-10-1	<10	<10	<10	<10	<10	<10
Methylene chloride	75-09-2	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Styrene	100-42-5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
1,1,2,2-Tetrachloroethane	79-34-5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Tetrachloroethylene	127-18-4	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Toluene	108-88-3	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
trans-1,2-Dichloroethylene	156-60-5	<5.0	6.4	<5.0	<5.0	<5.0	2600
trans-1,3-Dichloropropene	10061-02-6	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
1,1,1-Trichloroethane	71-55-6	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
1,1,2-Trichloroethane	79-00-5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Trichloroethylene	79-01-6	<5.0	<5.0	<5.0	<5.0	<5.0	7.7
Vinyl acetate	108-05-4	<10	<10	<10	<10	<10	<10
Vinyl chloride	75-01-4	<10	<10	<10	<10	<10	1600
Total xylenes	95-47-6	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0

(1) The numbers presented in this column are the Chemical Abstracts Service (CAS) numbers used for cataloging the indicated compounds in the Chemical Abstracts Index.

(2) $\mu\text{g/l}$ = micrograms per liter or parts per billion.

TABLE 4
SURROGATE STANDARD MATRIX SPIKE PERCENT RECOVERY SUMMARY
OF VOLATILE HAZARDOUS SUBSTANCE LIST COMPOUNDS
FOR ALLIED CORPORATION/BROADVIEW
PROJECT NO. 303030

SAMPLE IDENTIFICATION	PARAMETER		
	4-BROMOFLUOROBENZENE	1,2-DICHLOROETHANE-d₄	TOLUENE-d₈
	Percent Recovery		
MW-2	97%	100%	100%
MW-12	99%	99%	108%
MW-13	97%	98%	99%
MW-15	108%	102%	114%
MW-16D	95%	92%	107%
MW-16S	93%	98%	88%

TABLE 5
GROUND WATER ELEVATIONS

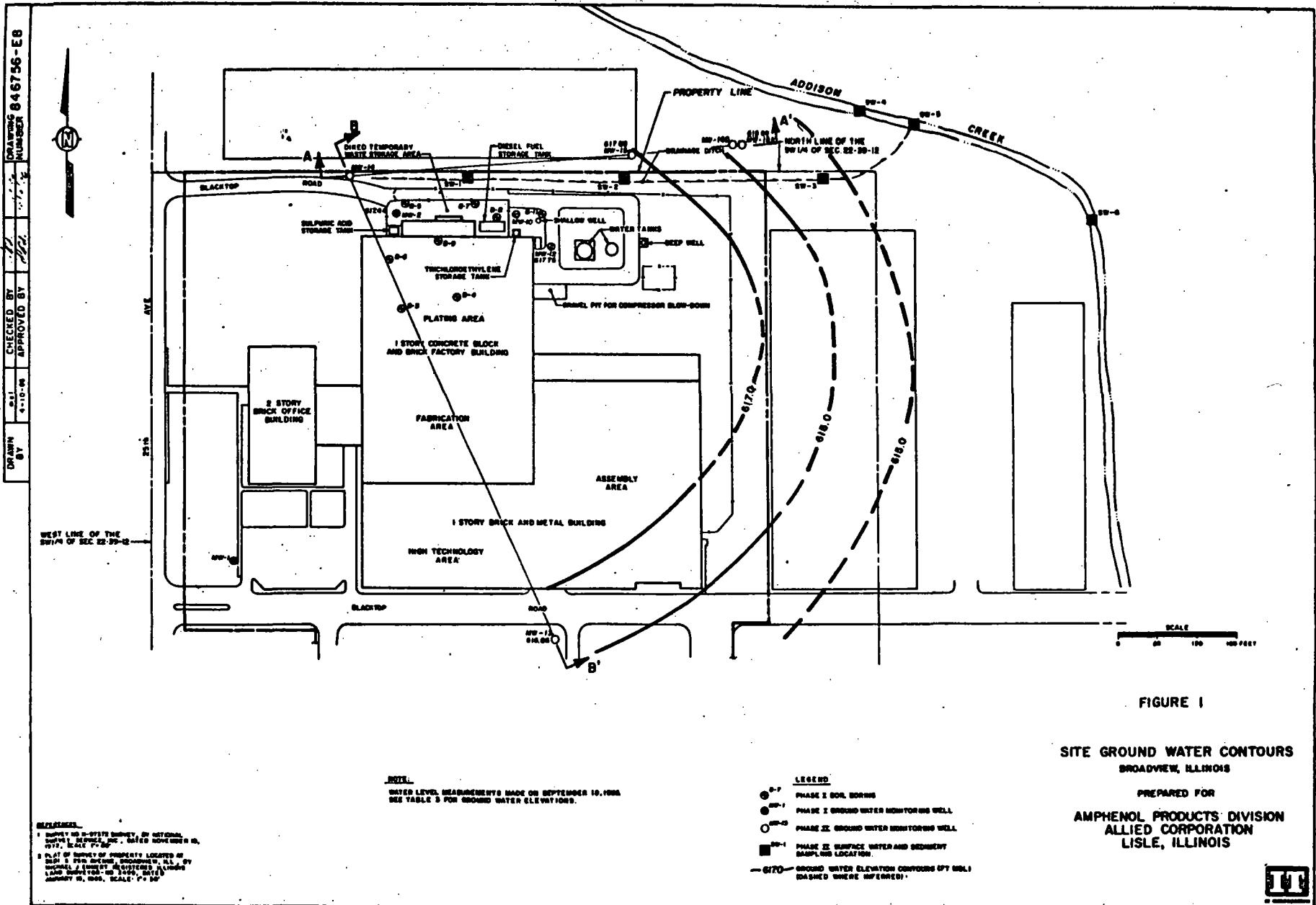
WELL NO.	WELL TOP ELEVATION (ft. MSL)	GROUND WATER ELEVATIONS				
		JUNE 5, 1985 (ft. MSL)	DECEMBER 17, 1985 (ft. MSL)	MARCH 24, 1986 (ft. MSL)	JUNE 19, 1986 (ft. MSL)	SEPT. 18, 1986 (ft. MSL)
MW-1	624.60	617.35	617.77	618.04	(a)	-
MW-2	623.89	617.29	618.31	619.33	618.40	617.44
MW-12	623.76	617.41	618.68	619.66	618.68	617.76
MW-13	623.15	617.65	616.90	617.88	617.94	616.86
MW-15	625.41	617.49	618.66	-(b)	618.08	617.08
MW-16D(c)	626.12	612.35	614.25	615.77	615.12	614.12
MW-16S	626.36	616.02	616.29	616.49	615.98	615.69

(a)Removed from service.

(b)MW-15 was inaccessible due to recent construction by Hobart, Inc.

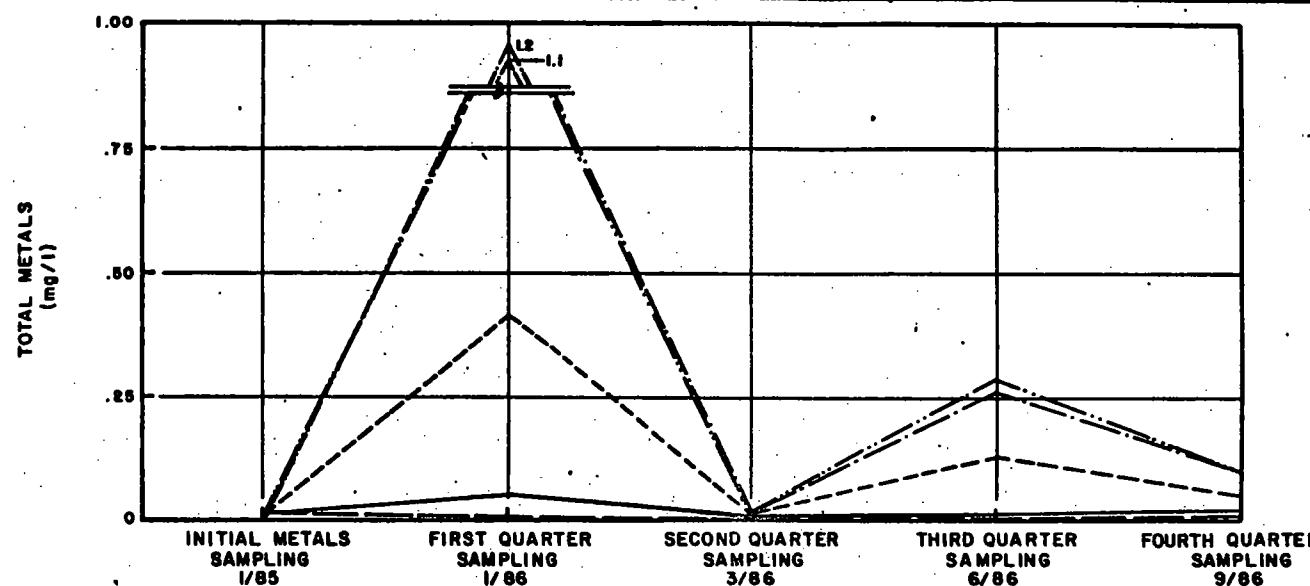
(c)MW-16D was not used in constructing the ground water contours shown in Figure 1. It is screened in a deeper sand lens than the remaining site wells.

ref. #8



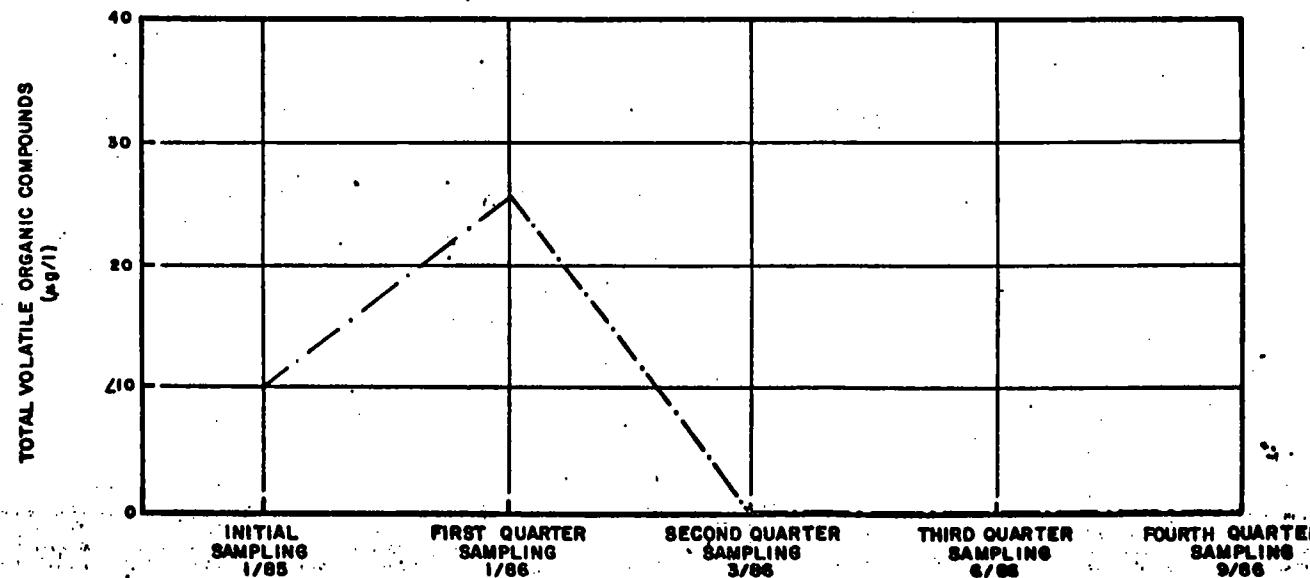
1/27/82 DRIVING 84-6756-83
1/27/82 APPROVED BY [Signature]

recycled paper



LEGEND:

- METALS
- CADMIUM
- - - CHROMIUM
- · - COPPER
- · - - NICKEL
- - - - SILVER



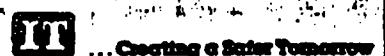
LEGEND:

- VOLATILE ORGANIC COMPOUNDS**
- - - 2-BUTANONE (DETECTION LIMIT IS $10 \mu\text{g/l}$)

FIGURE 2

RESULTS OF ANALYSES QUARTERLY GROUND WATER MONITORING
MONITORING WELL MW-2
PREPARED FOR
AMPHENOL PRODUCTS DIVISION
ALLIED CORPORATION
LIBBLE, ILLINOIS

© 1984 IT CORPORATION
ALL RIGHTS RESERVED
"Do Not See This Drawing"



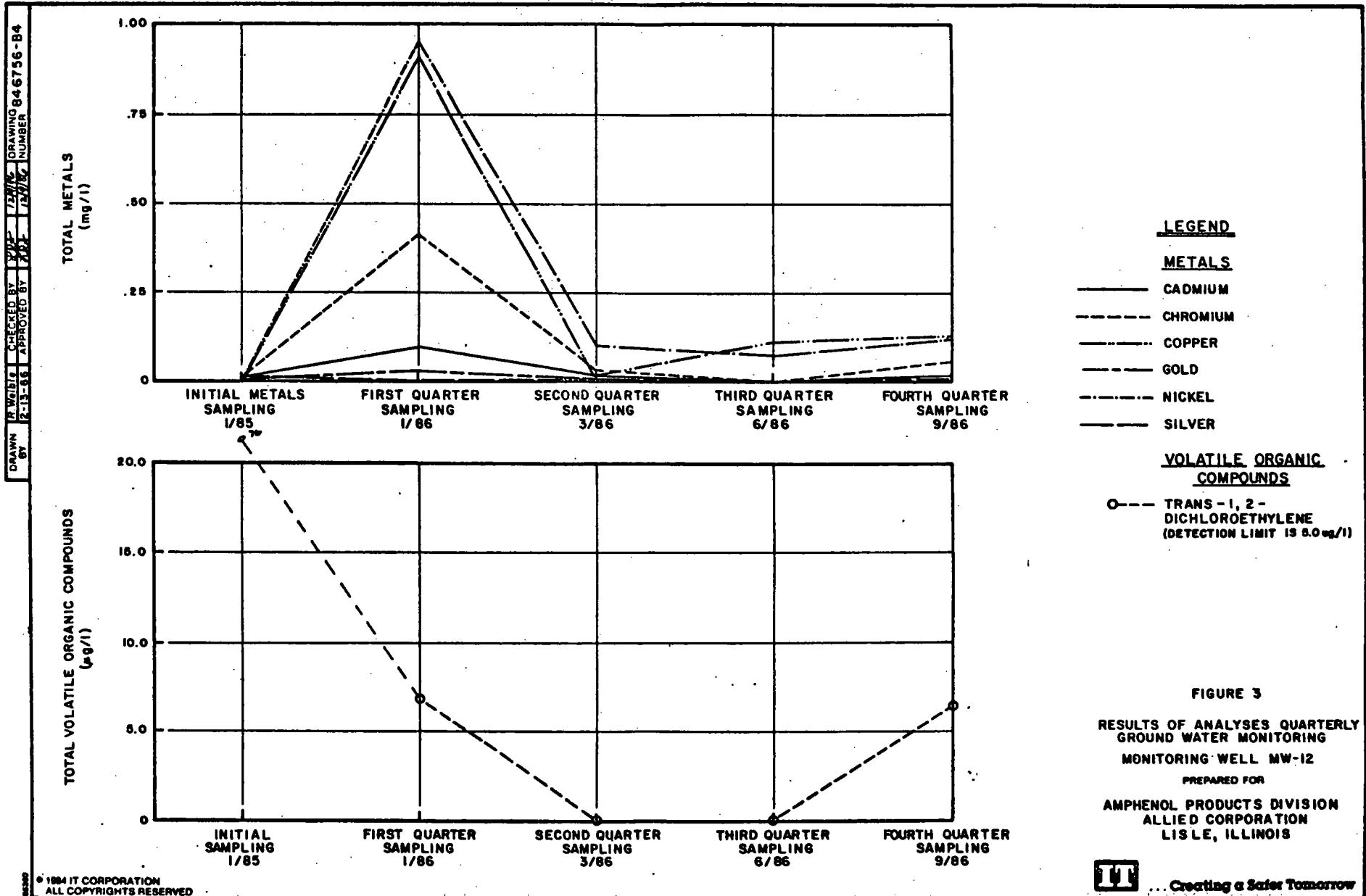
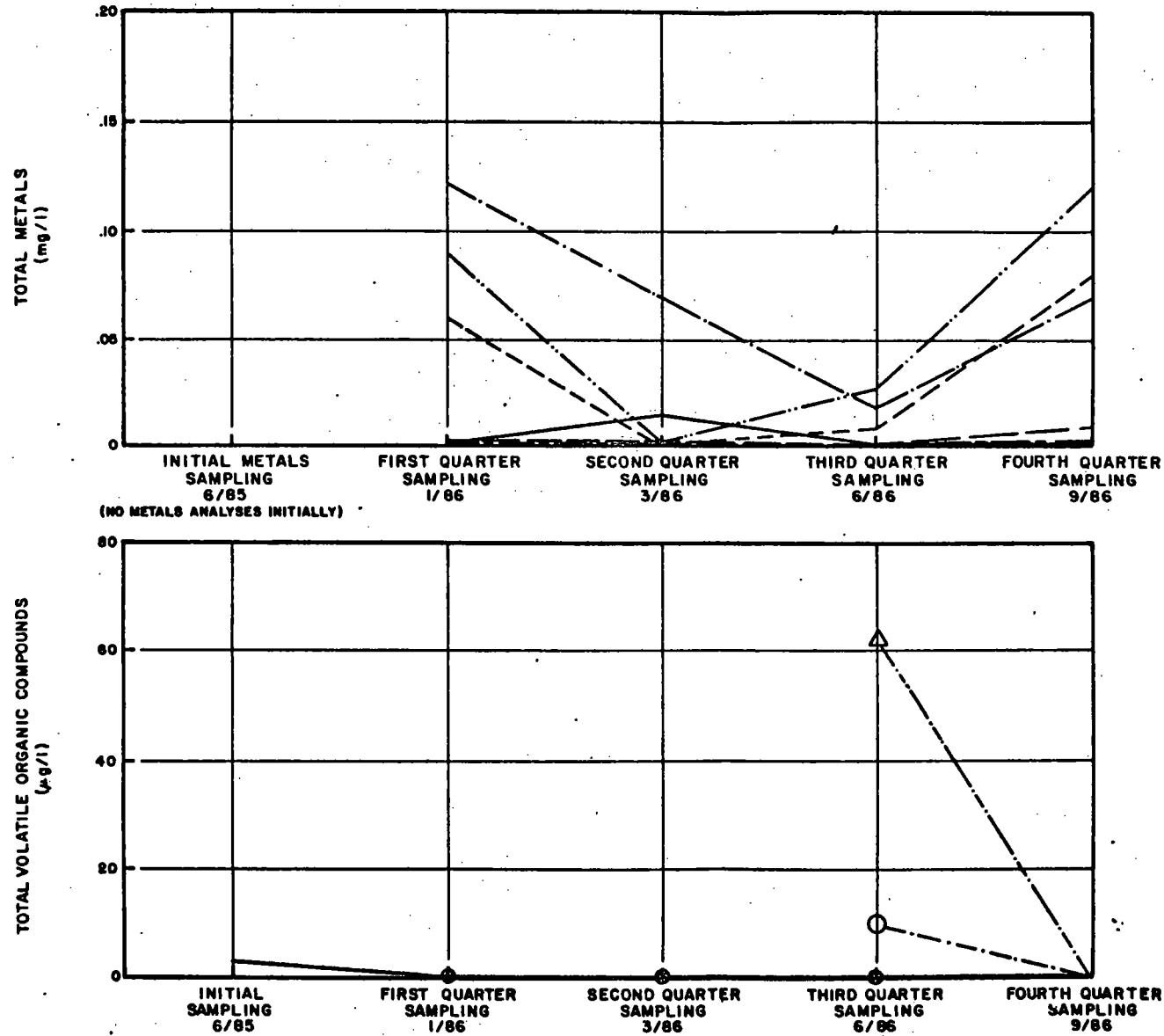


FIGURE 3

RESULTS OF ANALYSES QUARTERLY
GROUND WATER MONITORING
MONITORING WELL MW-12
PREPARED FOR
AMPHENOL PRODUCTS DIVISION
ALLIED CORPORATION
LISLE, ILLINOIS

DRAWN BY: R. W. BAILEY
SPEC'D BY: J. C. HARRIS
APPROVED BY: J. C. HARRIS
REVIEWED BY: J. C. HARRIS
CHIEF ENGINEER: J. C. HARRIS
DATE: 2-11-86
DRAWING NUMBER: 846756-85© 1984 IT CORPORATION
ALL RIGHTS RESERVED

"Do Not Scale This Drawing"

LEGEND:

- METALS**
- CADMIUM
 - - - CHROMIUM
 - · - COPPER
 - - - GOLD
 - - - NICKEL
 - - - SILVER

LEGEND:VOLATILE ORGANIC COMPOUNDS

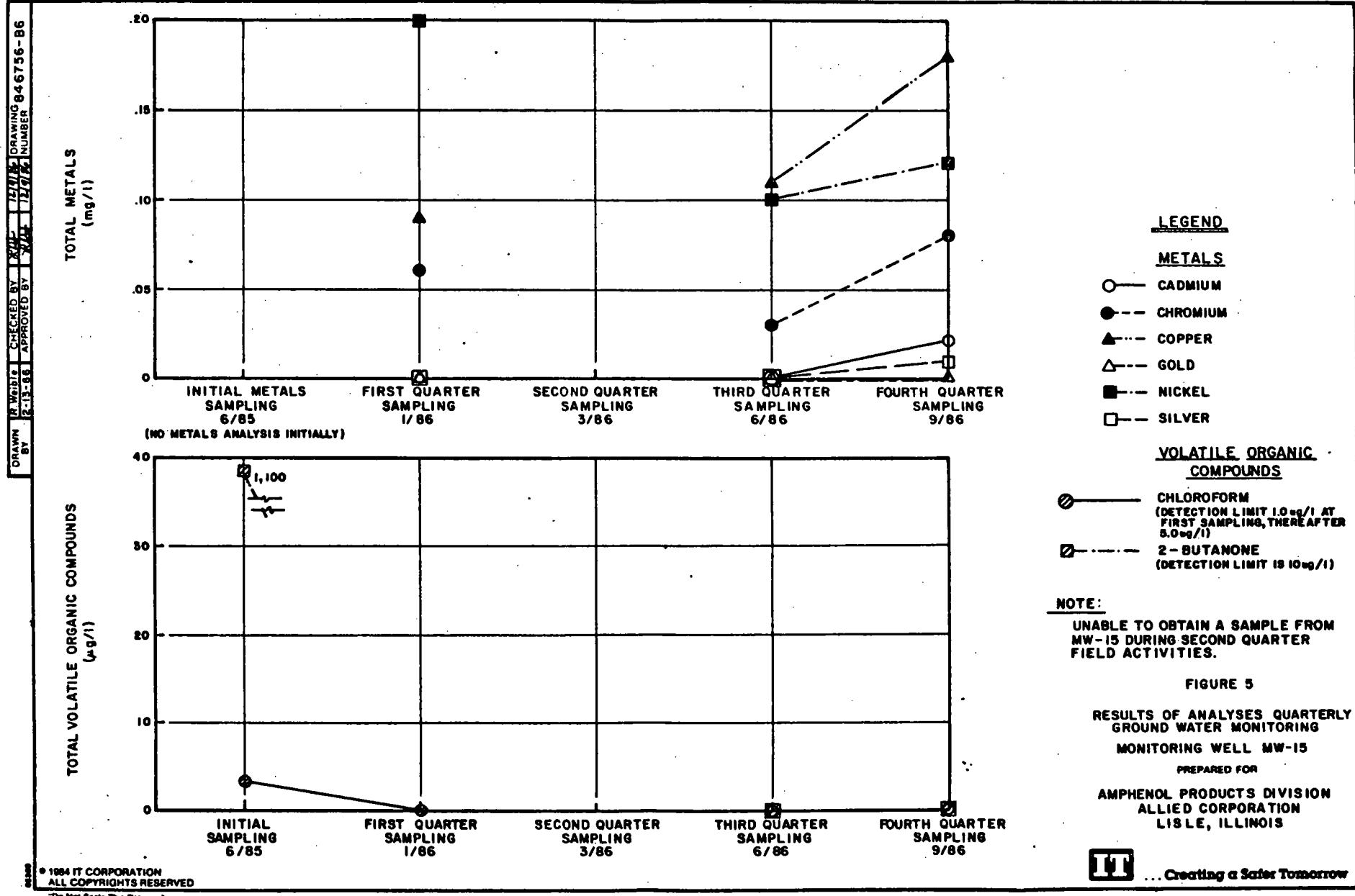
- — CHLOROFORM
(DETECTION LIMIT 1.0 µg/l AT FIRST SAMPLING, THEREAFTER, 8.0 µg/l)
- — 1,2-DICHLOROETHANE
(DETECTION LIMIT 1.0 µg/l AT FIRST SAMPLING, THEREAFTER, 8.0 µg/l)
- △ — METHYLENE CHLORIDE
(DETECTION LIMIT 10 µg/l AT FIRST SAMPLING, THEREAFTER, 8.0 µg/l)

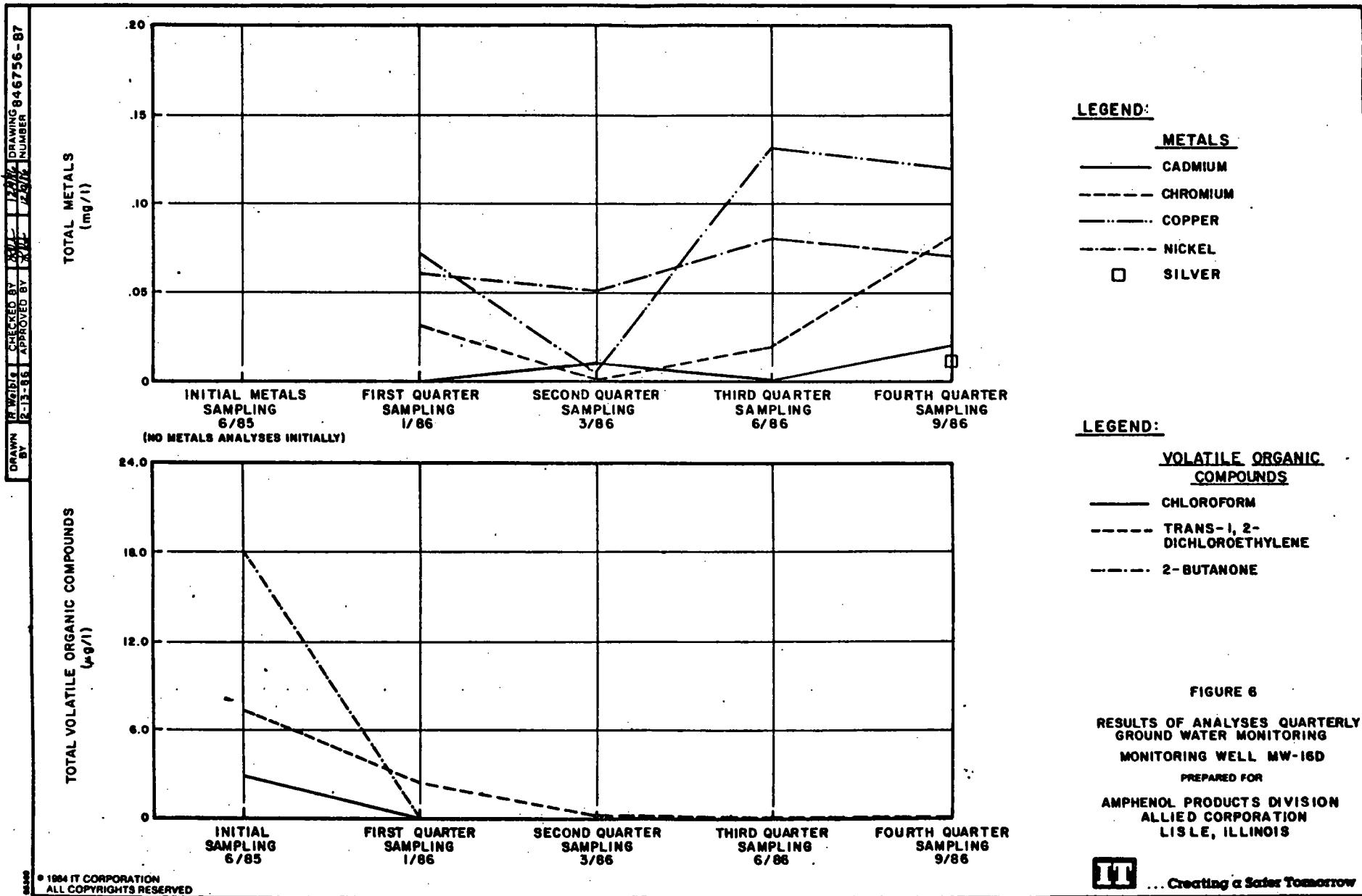
FIGURE 4

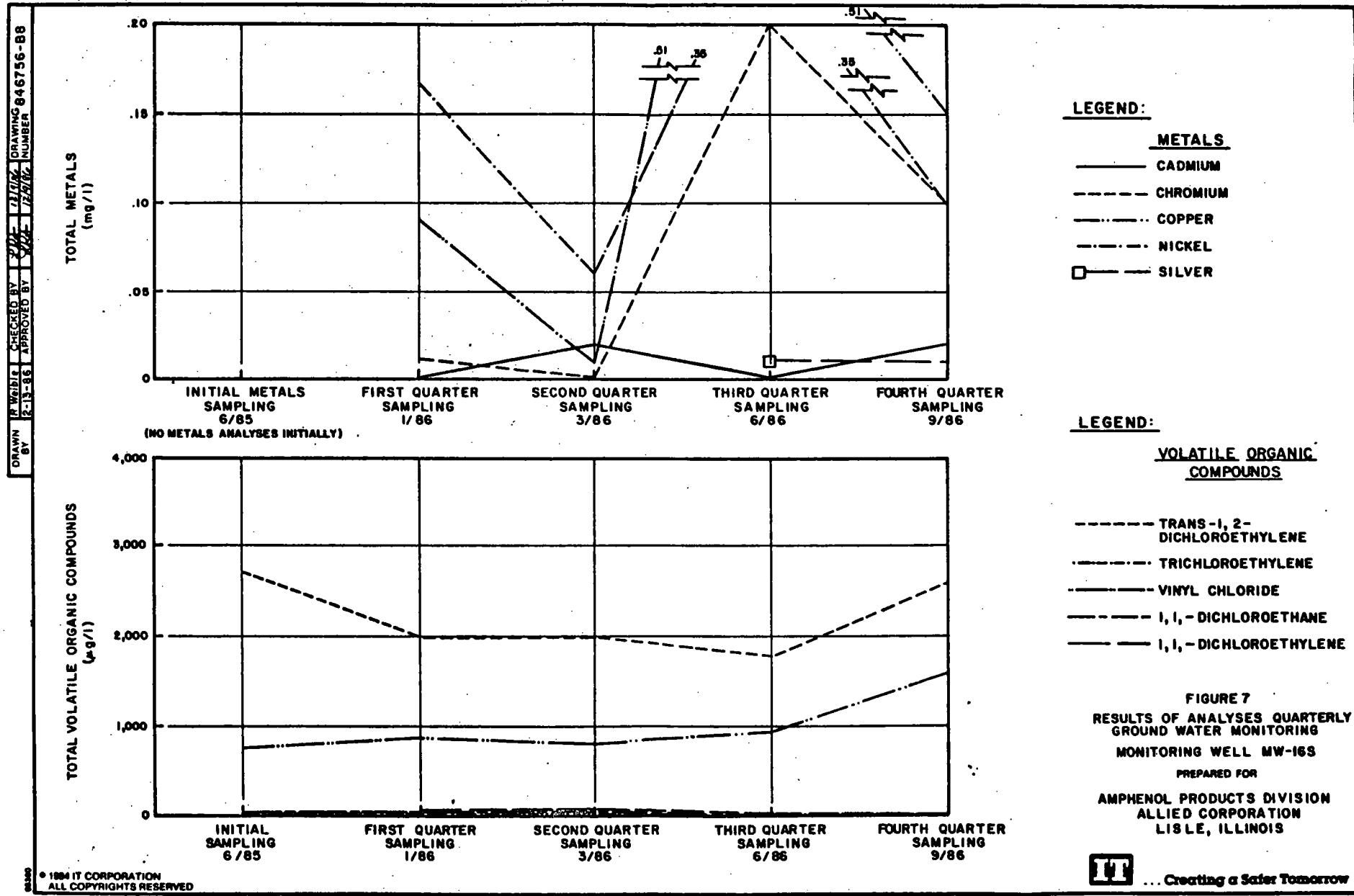
RESULTS OF ANALYSES QUARTERLY GROUND WATER MONITORING
MONITORING WELL MW-13
PREPARED FOR
AMPHENOL PRODUCTS DIVISION
ALLIED CORPORATION
LISLE, ILLINOIS



...Creating a Safer Tomorrow







© 1984 IT CORPORATION
ALL RIGHTS RESERVED
"Do Not Scale This Drawing"



DRAWN BY JRS DRAWING NUMBER 303030 - B4
APPROVED BY JSS DATE 12/22/86

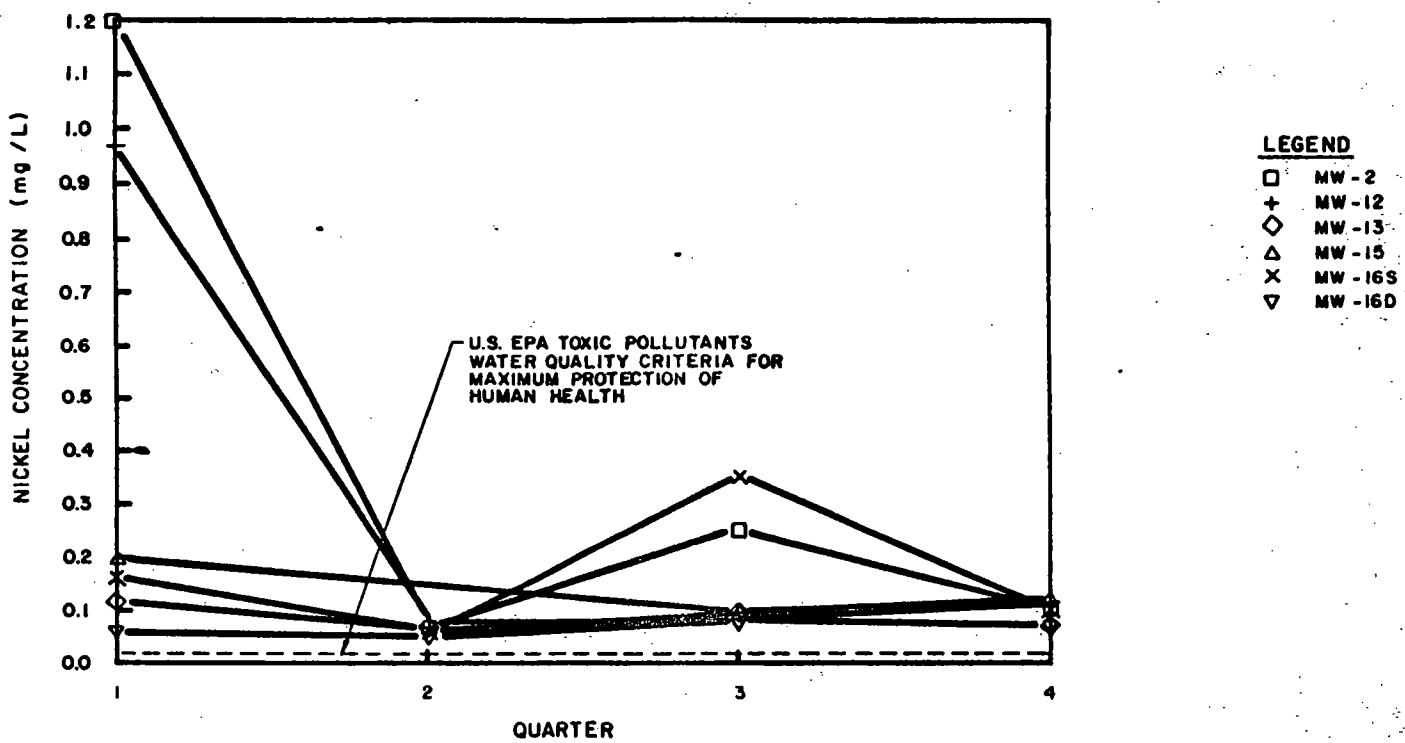


FIGURE 4

QUARTERLY NICKEL CONCENTRATIONS
BROADVIEW, ILLINOIS

PREPARED FOR

ALLIED CORPORATION
AMPHENOL PRODUCTS DIVISION
LISLE, ILLINOIS



Creating a Safer Tomorrow

© 1984 IT CORPORATION
ALL RIGHTS RESERVED
Do Not Scale This Drawing

TABLE I
WATER QUALITY ANALYSIS SUMMARY OF MONITORING WELL MW-2
FOR ALLIED CORPORATION/BROADVIEW
PROJECT NO. 303030

PARAMETER	CAS NO.(a)	UNIT	SAMPLE DATES			
			1ST QUARTER DECEMBER 1985	2ND QUARTER MARCH 1986	3RD QUARTER JUNE 1986	4TH QUARTER SEPTEMBER 1986
Ground Water Elevation		ft (MSL)	618.31	619.33	618.40	617.44
<u>General Chemistry:</u>						
Cyanide, Total		mg/l(b)	<0.02	<0.02	<0.02	<0.02
Oil and Grease		mg/l	4.0	6.3	2.9	0.8
<u>Metals:</u>						
Cadmium		mg/l	0.043/0.047(d)	<0.005	<0.01/<0.01	0.02
Chromium		mg/l	0.41	<0.01	0.13/0.11	0.05
Copper		mg/l	1.1	<0.01	0.28/0.28	0.10
Gold		mg/l	<0.001/<0.001	<0.01/<0.01	<0.01/<0.01	<0.01
Nickel		mg/l	1.2	0.07	0.26/0.24	0.18
Rhodium		mg/l	<0.005/<0.005	<0.01/<0.01	<0.01/<0.01	<0.01
Silver		mg/l	0.002-0.003	<0.01	<0.01/<0.01	0.01
<u>Volatile Hazardous Substance</u>						
<u>List Compounds:</u>						
Acetone	67-64-1	ug/l(c)	NT	<10	<10	<10
Benzene	71-43-2	ug/l	<1.0	<5.0	<5.0	<5.0
2-Butanone	78-93-3	ug/l	NT	<10	<10	<10
Bromoform	75-25-2	ug/l	<1.0	<5.0	<5.0	<5.0
Carbon disulfide	75-15-0	ug/l	NT	<5.0	<5.0	<5.0
Carbon tetrachloride	56-23-5	ug/l	<1.0	<5.0	<5.0	<5.0
Chlorobenzene	108-90-7	ug/l	<1.0	<5.0	<5.0	<5.0
Chlorodibromomethane	124-48-1	ug/l	<1.0	<5.0	<5.0	<5.0
Chloroethane	75-00-3	ug/l	<1.0	<10	<10	<10
2-Chloroethylvinyl ether	110-75-8	ug/l	<1.0	<10	<10	<10
Chloroform	67-66-3	ug/l	<1.0	<5.0	<5.0	<5.0
Cis-1,3-dichloropropene	10061-01-5	ug/l	NT	<5.0	<5.0	<5.0
Dichlorobromomethane	75-27-4	ug/l	<1.0	<5.0	<5.0	<5.0
1,1-Dichloroethane	75-34-3	ug/l	<1.0	<5.0	<5.0	<5.0
1,2-Dichloroethane	107-06-2	ug/l	<1.0	<5.0	<5.0	<5.0
1,1-Dichloroethylene	75-35-4	ug/l	<1.0	<5.0	<5.0	<5.0
1,2-Dichloropropane	78-87-5	ug/l	<1.0	<5.0	<5.0	<5.0
Ethylbenzene	100-41-4	ug/l	<1.0	<5.0	<5.0	<5.0
2-Hexanone	591-78-6	ug/l	NT	<10	<10	<10
Methyl bromide	74-83-9	ug/l	<10	<10	<10	<10
Methyl chloride	74-87-3	ug/l	<10	<10	<10	<10
4-Methyl-2-pentanone	108-10-1	ug/l	NT	<10	<10	<10
Methylene chloride	75-09-2	ug/l	<10	<5.0	<5.0	<5.0
Styrene	100-42-5	ug/l	NT	<5.0	<5.0	<5.0
1,1,2,2-Tetrachloroethane	79-34-5	ug/l	<1.0	<5.0	<5.0	<5.0
Tetrachloroethylene	127-18-4	ug/l	<1.0	<5.0	<5.0	<5.0
Toluene	108-88-3	ug/l	<1.0	<5.0	<5.0	<5.0
trans-1,2-Dichloroethylene	156-60-5	ug/l	<1.0	<5.0	<5.0	<5.0
trans-1,3-Dichloropropene	10061-02-6	ug/l	NT	<5.0	<5.0	<5.0
1,1,1-Trichloroethane	71-55-6	ug/l	<1.0	<5.0	<5.0	<5.0
1,1,2-Trichloroethane	79-00-5	ug/l	<1.0	<5.0	<5.0	<5.0
Trichloroethylene	79-01-6	ug/l	<1.0	<5.0	<5.0	<5.0
Vinyl acetate	108-05-4	ug/l	NT	<10	<10	<10
Vinyl chloride	75-01-4	ug/l	<10	<10	<10	<10
Total xylenes	95-47-6	ug/l	NT	<5.0	<5.0	<5.0
TOTAL VOLATILES		ug/l	<10	<10	<10	<10

(a) The numbers presented in this column are the Chemical Abstracts Service (CAS) numbers used for cataloging the indicated compounds in the Chemical Abstracts Index.

(b) ug/l = milligrams per liter or parts per million.

(c) ug/l = micrograms per liter or parts per billion.

(d) The indicated sample was analyzed in duplicate.

NT: Not tested.

TABLE 2
WATER QUALITY ANALYSIS SUMMARY OF MONITORING WELL MW-12
FOR ALLIED CORPORATION/BROADVIEW
PROJECT NO. 303030

PARAMETER	CAS NO.(a)	UNIT	SAMPLE DATES			
			1ST QUARTER DECEMBER 1985	2ND QUARTER MARCH 1986	3RD QUARTER JUNE 1986	4TH QUARTER SEPTEMBER 1986
Ground Water Elevation		ft (MSL)	618.68	619.66	618.68	617.76
<u>General Chemistry:</u>						
Cyanide, Total		mg/l(b)	<0.02	<0.02/<0.02(d)	<0.02	<0.02/<0.02
Oil and Grease		mg/l	8.6	6.9	1.6	0.9
<u>Metals:</u>						
Cadmium		mg/l	0.12	<0.005	<0.01	0.02/0.02
Chromium		mg/l	0.42	<0.01	<0.01	0.06/0.07
Copper		mg/l	0.91	0.01	0.11	0.13/0.13
Gold		mg/l	0.003	<0.01	<0.01	<0.01
Nickel		mg/l	0.97	0.08	0.08	0.12/0.11
Rhodium		mg/l	<0.005	<0.01	<0.01	<0.01
Silver		mg/l	0.007	<0.01	<0.01	0.01/0.01
<u>Volatile Hazardous Substance List Compounds:</u>						
Acetone	67-64-1	ug/l(c)	NT	<10	<10	<10
Benzene	71-43-2	ug/l	<1.0	5.0	5.0	5.0
2-Butanone	78-93-3	ug/l	NT	<10	<10	<10
Bromoform	75-25-2	ug/l	<1.0	5.0	5.0	5.0
Carbon disulfide	75-15-0	ug/l	NT	5.0	5.0	5.0
Carbon tetrachloride	56-23-5	ug/l	<1.0	5.0	5.0	5.0
Calorobenzene	108-90-7	ug/l	<1.0	5.0	5.0	5.0
Chlorodibromomethane	124-48-1	ug/l	<1.0	5.0	5.0	5.0
Chloroethane	75-00-3	ug/l	<1.0	<10	<10	<10
2-Chloroethylvinyl ether	110-75-8	ug/l	<1.0	<10	<10	<10
Chloroform	67-66-3	ug/l	<1.0	5.0	5.0	5.0
Cis-1,3-dichloropropene	10061-01-5	ug/l	NT	5.0	5.0	5.0
Dichlorobromomethane	75-27-4	ug/l	<1.0	5.0	5.0	5.0
1,1-Dichloroethane	75-34-3	ug/l	<1.0	5.0	5.0	5.0
1,2-Dichloroethane	107-06-2	ug/l	<1.0	5.0	5.0	5.0
1,1-Dichloroethylene	75-35-4	ug/l	<1.0	5.0	5.0	5.0
1,2-Dichloropropane	78-87-5	ug/l	<1.0	5.0	5.0	5.0
Ethylbenzene	100-41-4	ug/l	<1.0	5.0	5.0	5.0
2-Hexanone	591-78-6	ug/l	NT	<10	<10	<10
Methyl bromide	74-83-9	ug/l	<10	<10	<10	<10
Methyl chloride	74-87-3	ug/l	<10	<10	<10	<10
4-Methyl-2-pentanone	108-10-1	ug/l	NT	<10	<10	<10
Methylene chloride	75-09-2	ug/l	<10	5.0	5.0	5.0
Styrene	100-42-5	ug/l	NT	5.0	5.0	5.0
1,1,2,2-Tetrachloroethane	79-34-5	ug/l	<1.0	5.0	5.0	5.0
Tetrachloroethylene	127-18-4	ug/l	<1.0	5.0	5.0	5.0
Toluene	108-88-3	ug/l	<1.0	5.0	5.0	5.0
trans-1,2-Dichloroethylene	156-60-5	ug/l	6.7	5.0	5.0	6.4
trans-1,3-Dichloropropene	10061-02-6	ug/l	NT	5.0	5.0	5.0
1,1,1-Trichloroethane	71-55-6	ug/l	<1.0	5.0	5.0	5.0
1,1,2-Trichloroethane	79-00-5	ug/l	<1.0	5.0	5.0	5.0
Trichloroethylene	79-01-6	ug/l	<1.0	5.0	5.0	5.0
Vinyl acetate	108-05-4	ug/l	NT	<10	<10	<10
Vinyl chloride	75-01-4	ug/l	<10	<10	<10	<10
Total xylenes	95-47-6	ug/l	NT	5.0	5.0	5.0
TOTAL VOLATILES		ug/l	6.7	<10	<10	6.4

(a) The numbers presented in this column are the Chemical Abstracts Service (CAS) numbers used for cataloging the indicated compounds in the Chemical Abstracts Index.

(b) ug/l = milligrams per liter or parts per million.

(c) ug/l = micrograms per liter or parts per billion.

(d) The indicated sample was analyzed in duplicate.

NT: Not tested.

TABLE 3
WATER QUALITY ANALYSIS SUMMARY OF MONITORING WELL MW-13
FOR ALLIED CORPORATION/BROADVIEW
PROJECT NO. 303030

PARAMETER	CAS NO.(a)	UNIT	SAMPLE DATES			
			1ST QUARTER DECEMBER 1985	2ND QUARTER MARCH 1986	3RD QUARTER JUNE 1986	4TH QUARTER SEPTEMBER 1986
Ground Water Elevation		ft (MSL)	616.90	617.88	617.94	616.86
<u>General Chemistry:</u>						
Cyanide, Total		mg/l(b)	<0.02	<0.02	<0.02	<0.02
Oil and Grease		mg/l	3.2	9.5	2.8	1.8
<u>Metals:</u>						
Cadmium		mg/l	<0.005	0.014/0.029(d)	<0.01	<0.01
Chromium		mg/l	0.06	<0.01/<0.01	0.04	0.08
Copper		mg/l	0.09	0.01/0.01	0.13	0.12
Gold		mg/l	<0.001	<0.01/<0.01	<0.01	<0.01
Nickel		mg/l	0.12	0.07/0.06	0.09	0.07
Rhodium		mg/l	<0.005	<0.01/<0.01	<0.01	<0.01
Silver		mg/l	<0.001	<0.01/<0.01	<0.01	0.01
<u>Volatile Hazardous Substance</u>						
<u>List Compounds:</u>						
Acetone	67-64-1	ug/l(c)	NT	<10	<10	<10
Benzene	71-43-2	ug/l	<1.0	5.0	5.0	5.0
2-Butanone	78-93-3	ug/l	NT	<10	<10	<10
Bromoform	75-25-2	ug/l	<1.0	5.0	5.0	5.0
Carbon disulfide	75-15-0	ug/l	NT	5.0	5.0	5.0
Carbon tetrachloride	56-23-5	ug/l	<1.0	5.0	5.0	5.0
Chlorobenzene	108-90-7	ug/l	<1.0	5.0	5.0	5.0
Chlorodibromomethane	124-48-1	ug/l	<1.0	5.0	5.0	5.0
Chloroethane	75-00-3	ug/l	<1.0	<10	<10	<10
2-Chloroethylvinyl ether	110-75-8	ug/l	<1.0	<10	<10	<10
Chloroform	67-66-3	ug/l	<1.0	5.0	5.0	5.0
Cis-1,3-dichloropropene	10061-01-5	ug/l	NT	5.0	5.0	5.0
Dichlorobromomethane	75-27-4	ug/l	<1.0	5.0	5.0	5.0
1,1-Dichloroethane	75-34-3	ug/l	<1.0	5.0	5.0	5.0
1,2-Dichloroethane	107-06-2	ug/l	<1.0	5.0	10	5.0
1,1-Dichloroethylene	75-35-4	ug/l	<1.0	5.0	5.0	5.0
1,2-Dichloropropane	78-87-5	ug/l	<1.0	5.0	5.0	5.0
Ethylbenzene	100-41-4	ug/l	<1.0	5.0	5.0	5.0
2-Hexanone	991-78-6	ug/l	NT	<10	<10	<10
Methyl bromide	74-83-9	ug/l	<10	<10	<10	<10
Methyl chloride	74-87-3	ug/l	<10	<10	<10	<10
4-Methyl-2-pentanone	108-10-1	ug/l	NT	<10	<10	<10
Methylene chloride	75-09-2	ug/l	<10	5.0	62	5.0
Syrens	100-42-5	ug/l	NT	5.0	5.0	5.0
1,1,2,2-Tetrachloroethane	79-34-5	ug/l	<1.0	5.0	5.0	5.0
Tetrachloroethylene	127-18-4	ug/l	<1.0	5.0	5.0	5.0
Toluene	108-88-3	ug/l	<1.0	5.0	5.0	5.0
trans-1,2-Dichloroethylene	156-60-5	ug/l	<1.0	5.0	5.0	5.0
trans-1,3-Dichloropropene	10061-02-6	ug/l	NT	5.0	5.0	5.0
1,1,1-Trichloroethane	71-55-6	ug/l	<1.0	5.0	5.0	5.0
1,1,2-Trichloroethane	79-00-5	ug/l	<1.0	5.0	5.0	5.0
Trichloroethylene	79-01-6	ug/l	<1.0	5.0	5.0	5.0
Vinyl acetate	108-05-4	ug/l	NT	<10	<10	<10
Vinyl chloride	75-01-4	ug/l	<10	<10	<10	<10
Total xylenes	95-47-6	ug/l	NT	5.0	5.0	5.0
TOTAL VOLATILES		ug/l	<10	<10	72	<10

(a)The numbers presented in this column are the Chemical Abstracts Service (CAS) numbers used for cataloging the indicated compounds in the Chemical Abstracts Index.

(b)mg/l = milligrams per liter or parts per million.

(c)ug/l = micrograms per liter or parts per billion.

(d)The indicated sample was analyzed in duplicate.

NT: Not tested.

TABLE 4
WATER QUALITY ANALYSIS SUMMARY OF MONITORING WELL MW-15
FOR ALLIED CORPORATION/BROADVIEW
PROJECT NO. 303030

PARAMETER	CAS NO.(a)	UNIT	SAMPLE DATES			
			1ST QUARTER DECEMBER 1985	2ND QUARTER MARCH 1986(e)	3RD QUARTER JUNE 1986	4TH QUARTER SEPTEMBER 1986
Ground Water Elevation		ft (MSL)	618.66		618.08	617.08
<u>General Chemistry:</u>						
Cyanide, Total		mg/l(b)	<0.02		<0.02	<0.02
Oil and Grease		mg/l	2.0		0.9	1.4
<u>Metals:</u>						
Cadmium		mg/l	<0.005		<0.01	0.02
Chromium		mg/l	0.06		<0.03	0.08
Copper		mg/l	0.18		0.11	0.18
Gold		mg/l	<0.001		<0.01	<0.01
Nickel		mg/l	0.20		0.10	0.12
Rhodium		mg/l	<0.005		<0.01	<0.01
Silver		mg/l	<0.001		<0.01	0.01
<u>Volatile Hazardous Substance</u>						
<u>List Compounds:</u>						
Acetone	67-64-1	ug/l(c)	NT		<10/<10(d)	<10
Benzene	71-43-2	ug/l	<1.0		<5.0/<5.0	<5.0
2-Butanone	78-93-3	ug/l	NT		<10/<10	<10
Bromoform	75-25-2	ug/l	<1.0		<5.0/<5.0	<5.0
Carbon disulfide	75-15-0	ug/l	NT		<5.0/<5.0	<5.0
Carbon tetrachloride	56-23-5	ug/l	<1.0		<5.0/<5.0	<5.0
Chlorobenzene	108-90-7	ug/l	<1.0		<5.0/<5.0	<5.0
Chlorodibromomethane	124-48-1	ug/l	<1.0		<5.0/<5.0	<5.0
Chloroethane	75-00-3	ug/l	<1.0		<10/<10	<10
2-Chloroethylvinyl ether	110-75-8	ug/l	<1.0		<10/<10	<10
Chloroform	67-66-3	ug/l	<1.0		<5.0/<5.0	<5.0
Cis-1,3-dichloropropene	10061-01-5	ug/l	NT		<5.0/<5.0	<5.0
Dichlorobromomethane	75-27-4	ug/l	<1.0		<5.0/<5.0	<5.0
1,1-Dichloroethane	75-34-3	ug/l	<1.0		<5.0/<5.0	<5.0
1,2-Dichloroethane	107-06-2	ug/l	<1.0		<5.0/<5.0	<5.0
1,1-Dichloroethylene	75-35-4	ug/l	<1.0		<5.0/<5.0	<5.0
1,2-Dichloropropane	78-87-5	ug/l	<1.0		<5.0/<5.0	<5.0
Ethylbenzene	100-41-4	ug/l	<1.0		<5.0/<5.0	<5.0
2-Hexanone	591-78-6	ug/l	NT		<10/<10	<10
Methyl bromide	74-83-9	ug/l	<10		<10/<10	<10
Methyl chloride	74-87-3	ug/l	<10		<10/<10	<10
4-Methyl-2-pentanone	108-10-1	ug/l	NT		<10/<10	<10
Methylene chloride	75-09-2	ug/l	<10		<5.0/<5.0	<5.0
Styrene	100-42-5	ug/l	NT		<5.0/<5.0	<5.0
1,1,2,2-Tetrachloroethane	79-34-5	ug/l	<1.0		<5.0/<5.0	<5.0
Tetrachloroethylene	127-18-4	ug/l	<1.0		<5.0/<5.0	<5.0
Toluene	108-88-3	ug/l	<1.0		<5.0/<5.0	<5.0
trans-1,2-Dichloroethylene	156-60-5	ug/l	<1.0		<5.0/<5.0	<5.0
trans-1,3-Dichloropropene	10061-02-6	ug/l	NT		<5.0/<5.0	<5.0
1,1,1-Trichloroethane	71-55-6	ug/l	<1.0		<5.0/<5.0	<5.0
1,1,2-Trichloroethane	79-00-5	ug/l	<1.0		<5.0/<5.0	<5.0
Trichloroethylene	79-01-6	ug/l	<1.0		<5.0/<5.0	<5.0
Vinyl acetate	108-05-4	ug/l	NT		<10/<10	<10
Vinyl chloride	75-01-4	ug/l	<10		<10/<10	<10
Total xylenes	95-47-6	ug/l	NT		<5.0/<5.0	<5.0
TOTAL VOLATILES		ug/l	<10		<10/<10	<10

(a)The numbers presented in this column are the Chemical Abstracts Service (CAS) numbers used for cataloging the indicated compounds in the Chemical Abstracts Index.

(b)mg/l = milligrams per liter or parts per million.

(c)ug/l = micrograms per liter or parts per billion.

(d)The indicated sample was analyzed in duplicate.

(e)Unable to obtain samples this quarter.

NT: Not tested.

TABLE 5
WATER QUALITY ANALYSIS SUMMARY OF MONITORING WELL MW-160
FOR ALLIED CORPORATION/BROADVIEW
PROJECT NO. 303030

PARAMETER	CAS NO.(a)	UNIT	SAMPLE DATES			
			1ST QUARTER DECEMBER 1985	2ND QUARTER MARCH 1986	3RD QUARTER JUNE 1986	4TH QUARTER SEPTEMBER 1986
Ground Water Elevation		ft (MSL)	614.25	615.77	615.12	614.12
<u>General Chemistry:</u>						
Cyanide, Total		mg/l(b)	<0.02	<0.02(d)	<0.02	<0.02
Oil and Grease		mg/l	2.0	7.5	1.4	1.5
<u>Metals:</u>						
Cadmium		mg/l	<0.005	0.011/0.014	<0.01	0.02
Chromium		mg/l	0.03	<0.01	0.02	0.08
Copper		mg/l	0.07	0.01	0.13	0.12
Gold		mg/l	0.001	<0.01	<0.01	<0.01
Nickel		ug/l	0.06	0.05	0.08	0.07
Rhodium		mg/l	<0.005	<0.01	<0.01	<0.01
Silver		mg/l	0.001	<0.01	<0.01	0.01
<u>Volatile Hazardous Substance</u>						
<u>List Compounds:</u>						
Acetone	67-64-1	ug/l(c)	NT	<10	<10	<10
Benzene	71-43-2	ug/l	<1.0	<5.0	<5.0	<5.0
2-Butanone	78-93-3	ug/l	NT	<10	<10	<10
Bromoform	75-25-2	ug/l	<1.0	<5.0	<5.0	<5.0
Carbon disulfide	75-15-0	ug/l	NT	<5.0	<5.0	<5.0
Carbon tetrachloride	56-23-5	ug/l	<1.0	<5.0	<5.0	<5.0
Chlorobenzene	108-90-7	ug/l	<1.0	<5.0	<5.0	<5.0
Chlorodibromomethane	124-48-1	ug/l	<1.0	<5.0	<5.0	<5.0
Chloroethane	75-00-3	ug/l	<1.0	<10	<10	<10
2-Chloroethylvinyl ether	110-75-8	ug/l	<1.0	<10	<10	<10
Chloroform	67-66-3	ug/l	<1.0	<5.0	<5.0	<5.0
Cis-1,3-dichloropropene	10061-01-5	ug/l	NT	<5.0	<5.0	<5.0
Dichlorobromomethane	75-27-4	ug/l	<1.0	<5.0	<5.0	<5.0
1,1-Dichloroethane	75-34-3	ug/l	<1.0	<5.0	<5.0	<5.0
1,2-Dichloroethane	107-06-2	ug/l	<1.0	<5.0	<5.0	<5.0
1,1-Dichloroethylene	75-35-4	ug/l	<1.0	<5.0	<5.0	<5.0
1,2-Dichloropropane	78-87-5	ug/l	<1.0	<5.0	<5.0	<5.0
Ethylbenzene	100-41-4	ug/l	<1.0	<5.0	<5.0	<5.0
2-Hexanone	591-78-6	ug/l	NT	<10	<10	<10
Methyl bromide	74-83-9	ug/l	<10	<10	<10	<10
Methyl chloride	74-87-3	ug/l	<10	<10	<10	<10
4-Methyl-2-pentanone	108-10-1	ug/l	NT	<10	<10	<10
Methylene chloride	75-09-2	ug/l	<10	<5.0	<5.0	<5.0
Styrene	100-42-5	ug/l	NT	<5.0	<5.0	<5.0
1,1,2,2-Tetrachloroethane	79-34-5	ug/l	<1.0	<5.0	<5.0	<5.0
Tetrachloroethylene	127-18-4	ug/l	<1.0	<5.0	<5.0	<5.0
Toluene	108-88-3	ug/l	<1.0	<5.0	<5.0	<5.0
trans-1,2-Dichloroethylene	156-60-5	ug/l	1.0	<5.0	<5.0	<5.0
trans-1,3-Dichloropropene	10061-02-6	ug/l	NT	<5.0	<5.0	<5.0
1,1,1-Trichloroethane	71-55-6	ug/l	<1.0	<5.0	<5.0	<5.0
1,1,2-Trichloroethane	79-00-5	ug/l	<1.0	<5.0	<5.0	<5.0
Trichloroethylene	79-01-6	ug/l	<1.0	<5.0	<5.0	<5.0
Vinyl acetate	108-05-4	ug/l	NT	<10	<10	<10
Vinyl chloride	75-01-4	ug/l	<10	<10	<10	<10
Total xylenes	95-47-6	ug/l	NT	<5.0	<5.0	<5.0
TOTAL VOLATILES		ug/l	<10	<10	<10	<10

(a)The numbers presented in this column are the Chemical Abstracts Service (CAS) numbers used for cataloging the indicated compounds in the Chemical Abstracts Index.

(b)mg/l = milligrams per liter or parts per million.

(c)ug/l = micrograms per liter or parts per billion.

(d)The indicated sample was analyzed in duplicate.

NT: Not tested.

TABLE 6
WATER QUALITY ANALYSIS SUMMARY OF MONITORING WELL MW-168
FOR ALLIED CORPORATION/BROADVIEW
PROJECT NO. 303030

PARAMETER	CAS NO.(a)	UNIT	SAMPLE DATES			
			1ST QUARTER DECEMBER 1985	2ND QUARTER MARCH 1986	3RD QUARTER JUNE 1986	4TH QUARTER SEPTEMBER 1986
Ground Water Elevation		ft (MSL)	616.29	616.49	615.98	615.69
<u>General Chemistry:</u>						
Cyanide, Total		mg/l(b)	<0.02	<0.02	<0.02	<0.02
Oil and Grease		mg/l	2.5	210	1.3	1.5
<u>Metals:</u>						
Cadmium		mg/l	<0.005	0.021	<0.01	0.02
Chromium		mg/l	<0.01/<0.01(d)	<0.01/<0.01	<0.20	0.10
Copper		mg/l	0.09/0.09	0.01	0.51	0.15
Gold		mg/l	<0.001	<0.01	<0.01	<0.01/<0.01
Nickel		mg/l	0.17/0.16	0.06/0.06	0.35	0.10
Rhodium		mg/l	<0.005	<0.01	<0.01	<0.01/<0.01
Silver		mg/l	<0.001	<0.01	0.01	0.01
<u>Volatile Hazardous Substance List Compounds:</u>						
Acetone	67-64-1	ug/l(c)	NT	<10	<200(e)	<10
Benzene	71-43-2	ug/l	<1.0	<5.0	<100	<5.0
2-Butanone	78-93-3	ug/l	NT	<10	<200	<10
Bromoform	75-25-2	ug/l	<1.0	<5.0	<100	<5.0
Carbon disulfide	75-15-0	ug/l	NT	<5.0	<100	<5.0
Carbon tetrachloride	56-23-5	ug/l	<1.0	<5.0	<100	<5.0
Chlorobenzene	108-90-7	ug/l	<1.0	<5.0	<100	<5.0
Chlorodibromomethane	124-48-1	ug/l	<1.0	<5.0	<100	<5.0
Chloroethane	75-00-3	ug/l	<1.0	<10	<200	<10
2-Chloroethylvinyl ether	110-75-8	ug/l	<1.0	<10	<200	<10
Chloroform	67-66-3	ug/l	<1.0	<5.0	<100	<5.0
Cis-1,3-dichloropropene	10061-01-5	ug/l	NT	<5.0	<100	<5.0
Dichlorobromomethane	75-27-4	ug/l	<1.0	<5.0	<100	<5.0
1,1-Dichloroethane	75-34-3	ug/l	1.4	<5.0	<100	<5.0
1,2-Dichloroethane	107-06-2	ug/l	<1.0	<5.0	<100	<5.0
1,1-Dichloroethylene	75-35-4	ug/l	14	9.5	<100	15
1,2-Dichloropropane	78-87-5	ug/l	<1.0	<5.0	<100	<5.0
Ethylbenzene	100-41-4	ug/l	<1.0	<5.0	<100	<5.0
2-Hexanone	591-78-6	ug/l	NT	<10	<200	<10
Methyl bromide	74-83-9	ug/l	<10	<10	<200	<10
Methyl chloride	74-87-3	ug/l	<10	<10	<200	<10
4-Methyl-2-pentanone	108-10-1	ug/l	NT	<10	<200	<10
Methylene chloride	75-09-2	ug/l	<10	<5.0	<100	<5.0
Styrene	100-42-5	ug/l	NT	<5.0	<100	<5.0
1,1,2,2-Tetrachloroethane	79-34-5	ug/l	<1.0	<5.0	<100	<5.0
Tetrachloroethylene	127-18-4	ug/l	<1.0	<5.0	<100	<5.0
Toluene	108-88-3	ug/l	<1.0	<5.0	<100	<5.0
trans-1,2-Dichloroethylene	156-60-5	ug/l	2000	2000	1800	2600
trans-1,3-Dichloropropene	10061-02-6	ug/l	NT	<5.0	<100	<5.0
1,1,1-Trichloroethane	71-55-6	ug/l	<1.0	<5.0	<100	<5.0
1,1,2-Trichloroethane	79-00-5	ug/l	<1.0	<5.0	<100	<5.0
Trichloroethylene	79-01-6	ug/l	2.5	<5.0	<100	7.7
Vinyl acetate	108-05-4	ug/l	NT	<10	<200	<10
Vinyl chloride	75-01-4	ug/l	850	800	930	1600
Total xylenes	95-47-6	ug/l	NT	<5.0	<100	<5.0
TOTAL VOLATILES		ug/l	2,867.9	2,809.5	2,730	4,222.7

(a)The numbers presented in this column are the Chemical Abstracts Service (CAS) numbers used for cataloging the indicated compounds in the Chemical Abstracts Index.

(b)mg/l = milligrams per liter or parts per million.

(c)ug/l = micrograms per liter or parts per billion.

(d)The indicated sample was analyzed in duplicate.

(e)Detection limits for indicated parameters are based on dilution procedures IPB WA 85-J176, WA85-J177, WA85-J178 (revised January, 1985) for U.S. EPA Contract Laboratory Program for organic analysis (Hazardous Substance List compounds).

NT: Not tested.